

Appl. No. 09/554,333
Reply to Office Action of June 3, 2004

Amendments to the Claims:

Without prejudice or disclaimer, please amend the claims as shown in the below Listing of Claims. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1: (Currently Amended) An expression vector, comprising a DNA molecule complementary to at least part of an alphavirus RNA genome, which DNA molecule comprises the complement of the complete alphavirus RNA genome regions which are essential for replication of the said alphavirus RNA and further comprises a heterologous DNA ~~sequence~~ sequence capable of expression in a host, said heterologous DNA sequence being inserted into a region of the DNA molecule which is non-essential to replication thereof, and the DNA molecule being placed under transcriptional control of a promoter sequence functional in said host, wherein at least one heterologous splice site sequence is provided in the DNA molecule to prevent aberrant RNA splicing of the alphavirus and at a location which generates perfect splice junctions and restores the function of the alphavirus when removed.

Claim 2: (Original) The vector of claim 1 wherein said promoter is placed upstream of the 5'-end of the DNA molecule such that the resultant transcript has an authentic 5'-end.

Claim 3: (Original) The vector of claim 2 wherein said promoter is the cytomegalovirus immediate early promoter.

Claim 4: (Original) The vector of claim 1 which further comprises an additional DNA sequence at the 3'-end of the DNA molecule to direct proper *in vivo* cleavage at the 3'-end of the DNA molecule.

Claim 5: (Original) The vector of claim 4 wherein said additional DNA sequence comprises a hepatitis delta ribozyme sequence.

Claim 6: (Original) The vector of claim 1 wherein the heterologous splice site sequence is provided by the DNA sequence of the rabbit β -globin intron II.

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Claim 7: (Canceled) ~~The vector of claim 6 wherein the heterologous splice site sequence is inserted into the DNA molecule at a location which generates perfect splice junctions and restores the function of the SFV replicon when removed.~~

Claim 8: (Currently Amended) The vector of claim 1 wherein the alphavirus is a ~~Sinlele~~ Semliki Forest virus.

Claim 9: (Currently Amended) A cloning vector suitable for expression in a host cell of an heterologous DNA sequence, which comprises:

a DNA molecule ~~complementing~~ complementary to at least part of an alphavirus RNA genome, which DNA molecule comprises the complement of the complete alphavirus RNA genome regions which are essential for replication of the said alphavirus RNA and has a cloning site for insertion therein of a heterologous DNA sequence capable of expression in a host cell, said cloning site being located in a region of the DNA molecule which is non-essential to replication thereof;

a promoter sequence functional in said host cell and transcriptionally controlling said DNA molecule, said promoter sequence being placed upstream of the 5'-end of the DNA molecule such that the resultant transcript ~~had~~ has an authentic 5' end;

~~at least one heterologous splice set provided in the complement of the DNA molecule to permit aberrant RNA splicing of one to generate perfect splice junctions in the alphavirus at least one heterologous splice site sequence provided in the complement of the DNA molecule to prevent aberrant RNA splicing and at a location which generates perfect splice junctions and restores the ability of the alphavirus to replicate when removed; and~~

an additional DNA sequence at the 3'-end of the DNA molecule to direct proper *in vivo* cleavage at the 3'-end of the reactant ~~RNA molecule~~ mRNA transcript.

Claim 10: (Currently Amended) The cloning vector of claim 9 wherein said heterologous splice set site is provided by the DNA sequence of the rabbit β -globin intron II.

Claim 11: (Original) The cloning vector of claim 9 wherein said additional sequence comprises a hepatitis delta ribozyme sequence.

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Claim 12: (Currently Amended) The cloning vector of claim 8 9 wherein the alphavirus is a Semliki Forest virus.

Claim 13: (Currently Amended) The cloning vector of claim 8 9 which has the identifying characteristics of plasmid pMP76 shown in Figure 8D.

Claim 14: (Currently Amended) The cloning vector of claim 8 9 having SEQ ID no: 11.